

1 **What is claimed:**

2 *sub 17* 1. A method for accessing a specific instance associated with to a  
 3 programmable logic controller coupled to an operating system, wherein said specific  
 4 instance is not registered with said operating system such that a server of said  
 5 operating system is not able to normally access said specific instance using a  
 6 registration of said operating system, wherein said specific instance has specific  
 7 parameters that differentiate said specific instance from other instances, the method  
 8 comprising the steps of:

9 determining that said specific instance is not registered with the  
 10 operating system; and

11 registering said specific instance with said operating system such  
 12 that said specific instance of said object, that was previously not registered with  
 13 said operating system such that said server was not able to normally access said  
 14 specific instance, is accessible by said server by checking said operation  
 15 system's registration.

1 2. The method according to claim 1, wherein said step of registering does  
 2 not register objects that are not running such that a dormant programmable logic  
 3 controller is not erroneously activated.

1 3. The method according to claim 1, further comprising the step of remotely  
 2 coupling said programmable logic controller to said processor.

1 4. The method according to claim 3, wherein said step of remotely coupling  
 2 couples said programmable logic controller to said processor over the internet.

1           5.     The method according to claim 1, further comprising the step of obtaining  
2     an object name associated with said specific instance from a memory location allocated  
3     for said programmable logic controller.

1           6.     The method according to claim 1, further comprising the step of parsing a  
2     display name of said object to generate a parsed display name.

1           7.     The method according to claim 6, further comprising the step of creating a  
2     pointer moniker using said parsed display name.

1           8.     The method of claim 7, further comprising the step of binding said pointer  
2     moniker to said server.

1           9.     The method of claim 7, further comprising the step of creating an item  
2     moniker using a portion of said parsed display name to the right of a part corresponding  
3     to said pointer moniker.

1           10.    The method of claim 6, further comprising the step of binding said item  
2     moniker to said server.

1           11.    The method of claim 6, further comprising the step of recursively creating  
2     item monikers for items.

1           12.    The method of claim 6, further comprising binding a leftmost portion  
2     resulting monikers to said server.

1           13.    A method for accessing a specific instance of an object associated with an  
2   operating system, wherein said specific instance is not registered with said operating  
3   system such that a server of said operating system is not able to normally access said  
4   specific instance using a registration of said operating system, wherein said specific  
5   instance has specific parameters that differentiate said specific instance from other  
6   instances, the method comprising the steps of:

7                   determining that said specific instance is not registered in said running  
8   object table; and

9                   registering said specific instance with said operating system such that said  
10   specific instance of said object, that was previously not registered with said operating  
11   system such that said server was not able to normally access said specific instance, is  
12   accessible by said server by checking said operation system's registration.

1           14.    The method of claim 13, further comprising the step of converting a  
2   program ID to obtain a class ID of said specific instance.

1           15.    The method of claim 14, further comprising the step of a parsing moniker  
2   string to obtain a parsed moniker string.

1           16.    The method of claim 15, further comprising the step of creating a pointer  
2   moniker to said specific instance using said parsed moniker string.

1           17.    The method of claim 16, further comprising the step of binding said pointer  
2   moniker to said server.

1           18.    The method of claim 17, further comprising the step of instantiating said  
2   specific instance using said pointer moniker.

1 19. The method of claim 13, wherein said specific instance is associated with  
2 a programmable logic controller, wherein said step of registering registers said specific  
3 instance without changing a tagfile server name.

1 20. The method of claim 19, further comprising the step of binding a pointer  
2 moniker of said specific instance to a client.

1 21. An apparatus for accessing a specific instance associated with a  
2 programmable logic controller coupled to an operating system, wherein said specific  
3 instance is not registered with the operating system such that a server of said operating  
4 system is not able to normally access said specific instance by accessing a registration  
5 of said operating system, wherein said specific instance has specific parameters that  
6 differentiate said specific instance from other instances, the apparatus comprising:

7 a memory for registering said specific instance with said operating system;  
8 and

9 a processor for determining that said specific instance is not registered in  
10 said memory and for registering said specific instance with said operating system such  
11 that said specific instance of said object, that was previously not registered with said  
12 operating system such that said server was not able to normally access said specific  
13 instance, is accessible by said server by accessing said registration of said operating  
14 system.

1 22. The apparatus according to claim 21, further comprising a connection for  
2 remotely coupling said operating system to said programmable logic controller.

1 23. The apparatus according to claim 22, wherein said connection is an  
2 internet connection.

1           24.    The apparatus according to claim 22, wherein said connection is a  
2   Universal Serial Bus connection.

1           25.    The apparatus of claim 21, wherein said connection is a communications  
2   (COM) port connection.

1           26.    The apparatus according to claim 21, wherein said processor is driven by  
2   a dynamic link library that drives said processor according to signals associated with  
3   said programmable logic controller.

1           27.    The apparatus of claim 21, further comprising a display for displaying  
2   signals associated with said programmable logic controller.

1           28.    The apparatus of claim 27, wherein said processor processes said signals  
2   associated with said programmable logic controller to transform said signals into signals  
3   of a predetermined format defined by said server for display on said display.

1           29.    The apparatus of claim 21, further comprising a personal computer (PC)  
2   that includes said processor and provides said coupling to said programmable logic  
3   controller.

1           30.    The apparatus of claim 29, wherein said PC establishes a remote  
2   connection to couple said processor to said programmable logic controller.

1           31.    The apparatus of claim 21, further comprising a plurality of programmable  
2   logic controllers coupled to said processor.

1           32. The apparatus according to claim 31, further comprising a connection  
2 between said plurality of programmable logic controllers thereby forming a master-slave  
3 relationship in which a master programmable logic controller directs control of  
4 machinery coupled to a slave programmable logic controller.

1           33. The apparatus of claim 21, further comprising firmware for providing an  
2 interface between said processor and said programmable logic controller.

1           34. The apparatus of claim 33, wherein said firmware provides identification  
2 information of said programmable logic controller that is used by the processor for  
3 registering said specific instance.

1           35. The apparatus of claim 33, wherein said firmware is a personal computer  
2 card.

1           36. An apparatus for accessing a specific instance associated with a  
2 programmable logic controller coupled to an operating system, wherein said specific  
3 instance is not registered with the operating system such that a server of said operating  
4 system is not able to normally access said specific instance by accessing a registration  
5 of said operating system, wherein said specific instance has specific parameters that  
6 differentiate said specific instance from other instances, the apparatus comprising:

7                   memory means for registering said specific instance with said operating  
8 system; and

9                   processor means for determining that said specific instance is not  
10 registered in said memory means and for registering said specific instance with said  
11 operating system such that said specific instance of said object, that was previously not  
12 registered with said operating system such that said server was not able to normally

13 access said specific instance, is accessible by said server by accessing said registration  
14 of said operating system.

1 37. The apparatus according to claim 36, further comprising connection  
2 means for remotely coupling said operating system to said programmable logic  
3 controller.

1 38. The apparatus according to claim 37, wherein said connection means is a  
2 means to connect to the internet.

1 39. The apparatus according to claim 37, wherein said connection means is a  
2 means to connect to a Universal Serial Bus connection.

1 40. The apparatus of claim 36, wherein said connection means is a means to  
2 connect to a communications (COM) port.

1 41. The apparatus according to claim 36, further comprising a dynamic link  
2 library means that drives said processor means according to signals associated with  
3 said programmable logic controller.

1 42. The apparatus of claim 36, further comprising display means for displaying  
2 signals associated with said programmable logic controller.

1 43. The apparatus of claim 42, wherein said processor means processes said  
2 signals associated with said programmable logic controller to transform said signals into  
3 signals of a predetermined format defined by said server for display on said display.

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45. The apparatus of claim 44, wherein said PC means establishes a remote connection to couple said processor means to said programmable logic controller.

1           46.    The apparatus of claim 36, further comprising a plurality of programmable  
2   logic controllers coupled to said processor means.

47. The apparatus according to claim 46, further comprising connection means to provide a connection between said plurality of programmable logic controllers thereby forming a master-slave relationship in which a master programmable logic controller directs control of machinery coupled to a slave programmable logic controller.

1           48. The apparatus of claim 36, further comprising firmware means for  
2     providing an interface between said processor means and said programmable logic  
3     controller.

49. The apparatus of claim 48, wherein said firmware means provides  
identification information of said programmable logic controller that is used by the  
processor means for registering said specific instance.

1            50. The apparatus of claim 47, wherein said firmware means is a personal  
2 computer card.

51. An article of manufacture encoded with processor instructions for driving a processor according to a method for accessing a specific instance of an object

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